Holistic approach to healthy ageing

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BOND UNIVERSITY
FACULTY OF HEALTH SCIENCES & MEDICINE

My narrative of exercise for older adults

Constraints on the Control of Physiological Tremor

Mr Justin W.L. Keogh

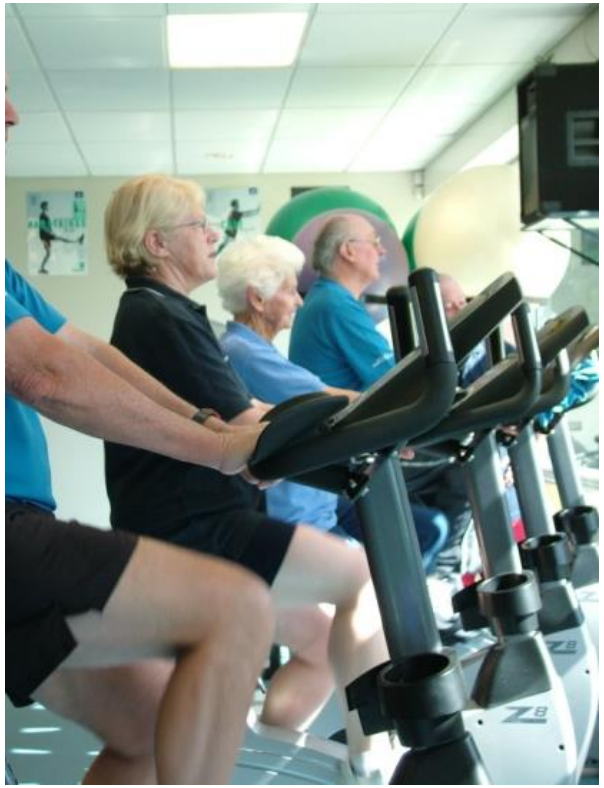
BHSc BHMS(Hons)

A thesis submitted in fulfilment of the requirements of the degree of Doctor of Philosophy

School of Physiotherapy and Exercise Science
Faculty of Health Sciences
Griffith University Gold Coast

New Zealand's never2old program: Not Just About the Exercise

New Zealand's never2old program: Not Just About the Exercise



Bond University internal research grant - 2012

J Cachexia Sarcopenia Muscle (2014) 5:229–236
DOI 10.1007/s13539-014-0144-z

ORIGINAL ARTICLE

Assessing sarcopenic prevalence and ri… aged care: methodology and feasibility

Maturitas 82 (2015) 418–423

Contents lists available at Science…

Maturitas

journal homepage: www.elsevier.com/…

Prevalence and risk factors of sarcopenia among … nursing homes

Hugh E. Senior [a,*], Tim R. Henwood [b], Elaine M. Beller [c], Geoffre…, Justin W.L. Keogh [c]

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ACRM
AMERICAN CONGRESS OF REHABILITATION MEDICINE

Archives of Physical Medicine and Rehabilitation

journal homepage: www.archives-pmr.org

Archives of Physical Medicine and Rehabilitation 2015;96:1993-9

ORIGINAL RESEARCH

Geriatric Nursing 38 (2017) 406–411

Contents lists available at ScienceDirect

Geriatric Nursing

journal homepage: www.gnjournal.com

Feature Article

Consequences of sarcopenia among nursing home residents at long-term follow-up

Tim Henwood, PhD [a,b,c,*], Bothaina Hassan, PhD [d,e], Paul Swinton, PhD [f], Hugh Senior, PhD [g], Justin Keogh, PhD [b,h,i]

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MUSCLING UP AGAINST DISABILITY

PROJECT REPORT

Please say that again

NOVEMBER 2017

Authors

Dr Sharon Hetherington

Dr Timothy Henwood

Dr Justin Keogh

Dr Paul Gardiner

Dr Anthony Tuckett

Mr Kevin Rouse

Suggested citation

Hetherington S, Henwood T, Keogh J, Gardiner P, Tuckett A, Rouse K. Muscling Up Against Disability: Project Report. Brisbane: Burnie Brae Ltd, 2017.

Funding

This work was supported by the Commonwealth of Australia Department of Social Services Aged Care Service Improvement and Healthy Ageing Grant [Grant ID: 4-Z35FF5, awarded March 2015].


2KG


BOND
UNIVERSITY
GOLD COAST, AUSTRALIA
2019
Sustainability of Healthcare Awards
RESEARCH AWARD
Sponsored by Health Service 360
Presented to
Associate Professor Justin Keogh
and
Dr Tim Henwood

History of research – impactful studies

The New England
Journal of Medicine

Volume 330 JUNE 23, 1994 Number 25

EXERCISE TRAINING AND NUTRITIONAL SUPPLEMENTATION FOR PHYSICAL FRAILTY IN VERY ELDERLY PEOPLE

MARIA A. FIATARONE, M.D., EVELYN F. O'NEILL, C.T.R.S., NANCY DOYLE RYAN, D.T., KAREN M. CLEMENTS, M.P.H., GUIDO R. SOLARES, PH.D., MIRIAM E. NELSON, PH.D., SUSAN B. ROBERTS, PH.D., JOSEPH J. KEHAYIAS, PH.D., LEWIS A. LIPSITZ, M.D., AND WILLIAM J. EVANS, PH.D.

Mobility

Use of a cane, walker, or wheelchair at base line was associated with lower values of strength, gait velocity, and stair-climbing power. Four subjects in the exercise group who had previously used a walker required only a cane after the study, whereas one nonexercising subject who had used a cane required a walker after the study. The exercise intervention significantly improved habitual gait velocity, stair-climbing ability, and the overall level of physical activity (Table 2 and Fig. 3). The nutritional supplement had no effect on mobility.

Clinical Physiology (1997) **17**, 311–324

Dynamic muscle strength alterations to detraining and retraining in elderly men

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The Musculoskeletal Research Laboratory, Aging Study Unit, Geriatric Research, Education and Clinical Center, Veterans Affairs Medical Center, Palo Alto, and
*Department of Medicine, Stanford University, Stanford, California, USA

(Received 27 August 1996; accepted 27 December 1996)

Summary. To investigate the effects of cessation and subsequent resumption of training on muscle strength in elderly men, 11 men (aged 65–77 years), just completing a 24-week randomized controlled trial of recombinant human growth hormone (rhGH) and resistance exercise (rhGH, n=6; placebo, n=5), detrained for 12 weeks and subsequently retrained for 8 weeks. During the detraining and retraining phase, subjects did not receive rhGH. The resistance programme included three sets of eight repetitions at 75% of one-repetition maximum (1-RM), three times per week, for 10 upper and lower body exercises. Dynamic muscle strength was assessed by the 1-RM method every 2 weeks for 44 weeks. Needle biopsies of vastus lateralis muscle were obtained from seven men. Muscle strength increased during initial training by 40·4±5·5% (mean±SEM), ranging from 26·0±5·0 to 83·9±15·6%, depending on muscle group. Increased strength was accompanied by hypertrophy (P<0·05) of type I (17·4±4·1%) and II (25·8±12·4%) muscle fibres. Of initial strength gains, only 29·9±5·2% was lost with detraining. However, type I and II fibre cross-sectional area reverted to pretraining values. After 8 weeks of retraining, muscle strength returned to trained values, but without a significant change in fibre morphology. The results indicate that elderly men lose some muscle strength following short-term detraining, but that only a brief period of retraining suffices to regain maximal strength. Reversal of fibre cross-sectional area with detraining, and only modest improvement with retraining, suggests that much of the retention in strength with detraining and reacquisition of lost strength with retraining reflects neural adaptation.

Abstract

Background: after 1 year, a home-based programme of strength and balance retraining exercises was effective in reducing falls and injuries in women aged 80 years and older. The exercise programme had been individually prescribed by a physiotherapist during the first 2 months of a randomized controlled trial.
Objective: we aimed to assess the effectiveness of the programme over 2 years.
Setting: 17 general practices in Dunedin, New Zealand.
Subjects: women from both the control group and the exercise group completing a 1-year trial (213 out of the original 233) were invited to continue for a further year.
Methods: falls and compliance to the exercise programme were monitored for 2 years.
Results: 81 (74%) in the control group and 71 (69%) in the exercise group agreed to continue in the study. After 2 years, the rate of falls remained significantly lower in the exercise group than in the control group. The relative hazard for all falls for the exercise group was 0.69 (95% confidence interval 0.49–0.97). The relative hazard for a fall resulting in a moderate or severe injury was 0.63 (95% confidence interval 0.42–0.95). Those complying with the exercise programme at 2 years had a higher level of physical activity at baseline, were more likely to have reported falling in the year before the study and had remained more confident in the first year about not falling compared with the rest of the exercise group.
Conclusions: falls and injuries can be reduced by an individually tailored exercise programme in the home. For those who keep exercising, the benefit continues over a 2-year period.

Keywords: *community, falls, old age, physical activity, randomized controlled trial*

Journal of Aging and Physical Activity, 2020, 28, 352-359
https://doi.org/10.1123/japa.2019-0085

Human Kinetics
ORIGINAL RESEARCH

Progressive Resistance Plus Balance Training for Older Australians Receiving In-Home Care Services: Cost-Effectiveness Analyses Alongside the Muscling Up Against Disability Stepped-Wedge Randomized Control Trial

Sharon Hetherington, Paul Swinton, Tim Henwood, Justin Keogh, Paul Gardiner, Anthony Tuckett, Kevin Rouse, and Tracy Comans

In this article, the authors assessed the cost-effectiveness of center-based exercise training for older Australians. The participants were recipients of in-home care services, and they completed 24 weeks of progressive resistance plus balance training. Transport was offered to all participants. A stepped-wedge randomized control trial produced pre-, post-, and follow-up outcomes and cost data, which were used to calculate incremental cost-effectiveness ratios per quality-adjusted life year gained. Analyses were conducted from a health provider perspective and from a government perspective. From a health-service provider perspective, the direct cost of program provision was $303 per person, with transport adding an additional $1,920 per person. The incremental cost–utility ratio of the program relative to usual care was $70,540 per quality-adjusted life year over 6 months, decreasing to $37,816 per quality-adjusted life year over 12 months. The findings suggest that Muscling Up Against Disability offers good value for the money within commonly accepted threshold values.

Keywords: cost–utility, effectiveness, exercise

International position statements and strategic plans

The Journal of Nutrition, Health and Aging 29 (2025) 100401

Contents lists available at ScienceDirect

The Journal of Nutrition, Health and Aging

journal homepage: www.elsevier.com/locate/jnha

Review

Global consensus on optimal exercise recommendations for enhancing healthy longevity in older adults (ICFSR)

Mikel Izquierdo [a,b,*], Philipe de Souto Barreto [c,d], Hidenori Arai [e], Heike A. Bischoff-Ferrari [f], Eduardo L. Cadore [g], Matteo Cesari [h], Liang-Kung Chen [i], Paul M. Coen [j], Kerry S. Courneya [k], Gustavo Duque [l], Luigi Ferrucci [m], Roger A. Fielding [n], Antonio García-Hermoso [a,b], Luis Miguel Gutiérrez-Robledo [o], Stephen D.R. Harridge [p], Ben Kirk [q], Stephen Kritchevsky [r], Francesco Landi [s,t], Norman Lazarus [p], Teresa Liu-Ambrose [u], Emanuele Marzetti [s,t], Reshma A. Merchant [v,w], John E. Morley [x], Kaisu H. Pitkälä [y], Robinson Ramírez-Vélez [a,b], Leocadio Rodriguez-Mañas [b,z], Yves Rolland [c,d], Jorge G. Ruiz [A], Mikel L. Sáez de Asteasu [a,b], Dennis T. Villareal [B], Debra L. Waters [C,D], Chang Won Won [E], Bruno Vellas [c,d], Maria A. Fiatarone Singh [F]

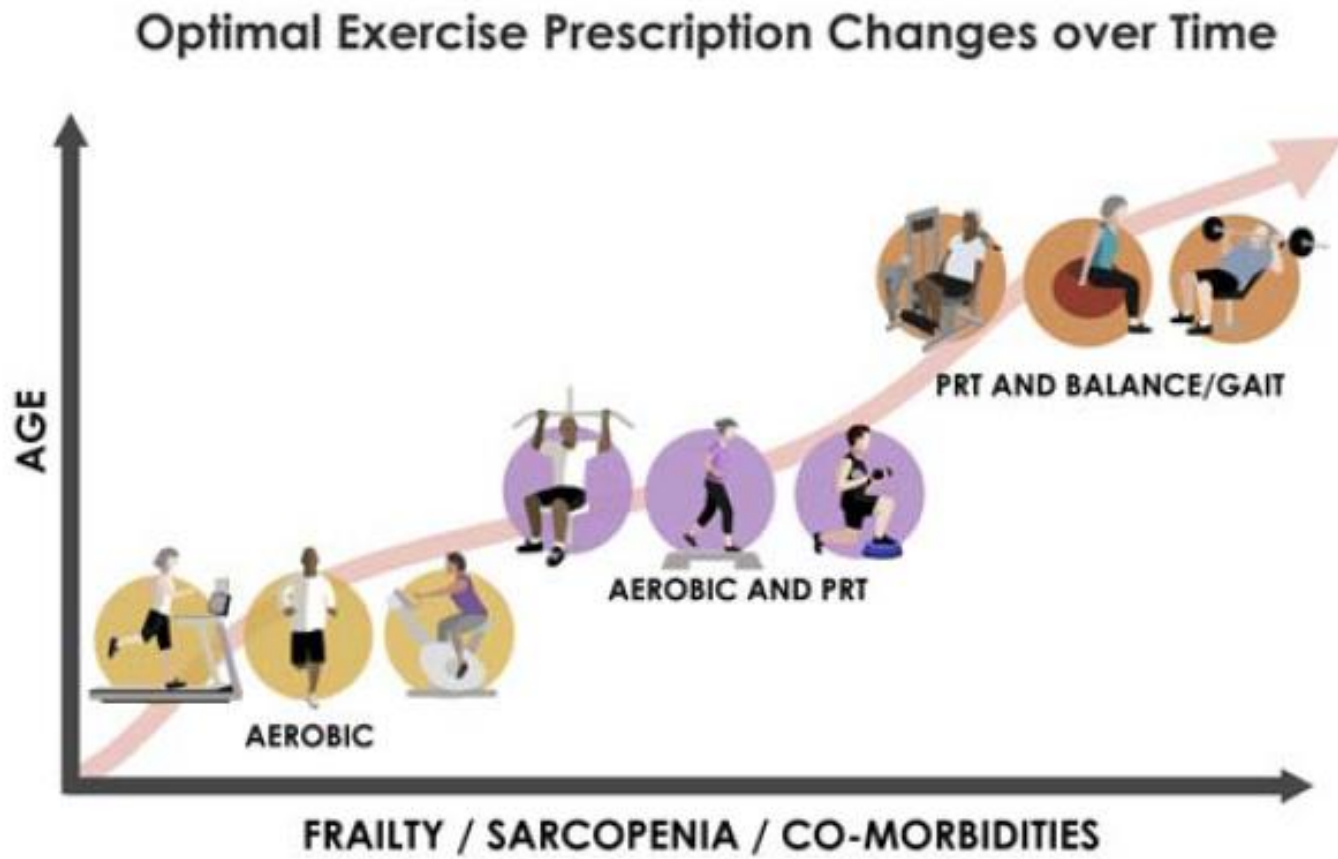


Fig. 2. Sequential exercise programming for individuals with severe frailty should align with the physical requirements necessary for mobility. The process begins with PRT, emphasizing basic movements such as standing up from a seated position or negotiating steps, as these are fundamental for lifting body weight and initiating movement. Following sufficient strength development, the focus shifts to balance exercises to maintain upright positions. Finally, endurance training is introduced to support walking and other daily activities over extended periods. This progression mirrors the natural demands of movement, minimizing the risk of falls and promoting safe ambulation. PRT = progressive resistance training.

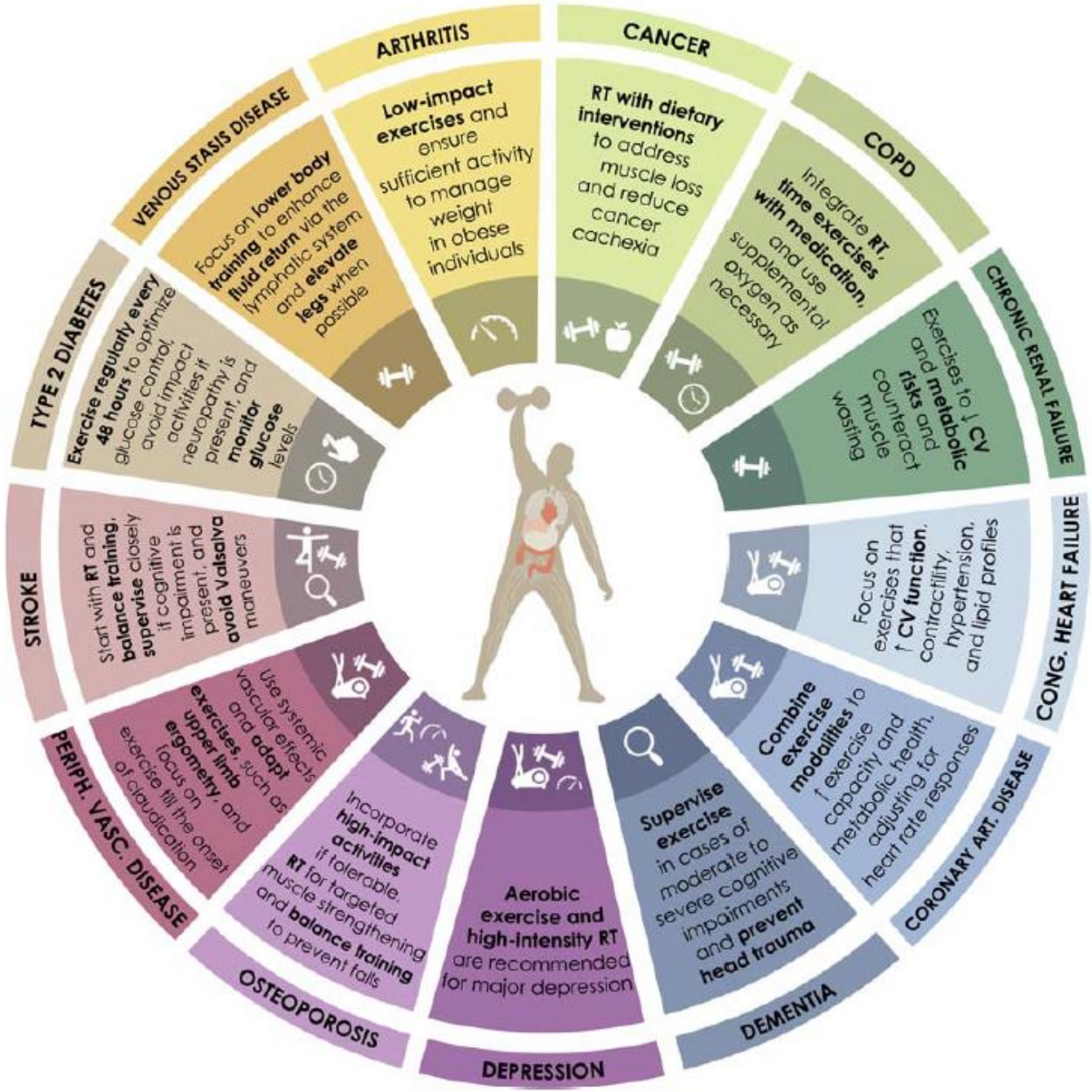
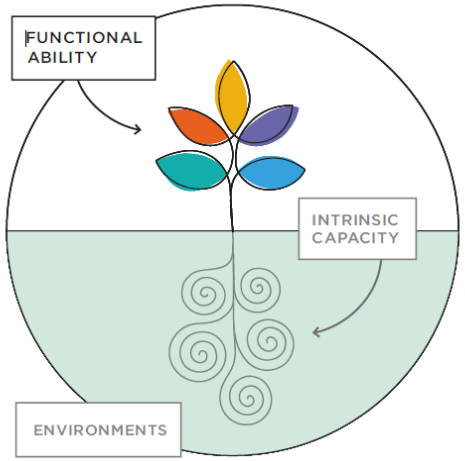
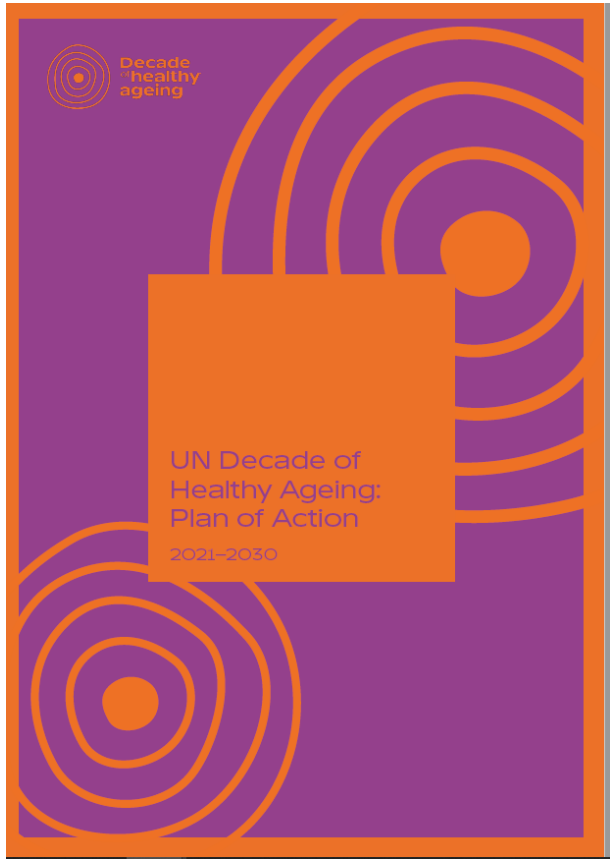


Fig. 4. Graphical illustration of the considerations for the prescription for secondary and tertiary prevention (disease expression and progression).



DECADE OF HEALTHY AGEING
BASELINE REPORT

World Health Organization



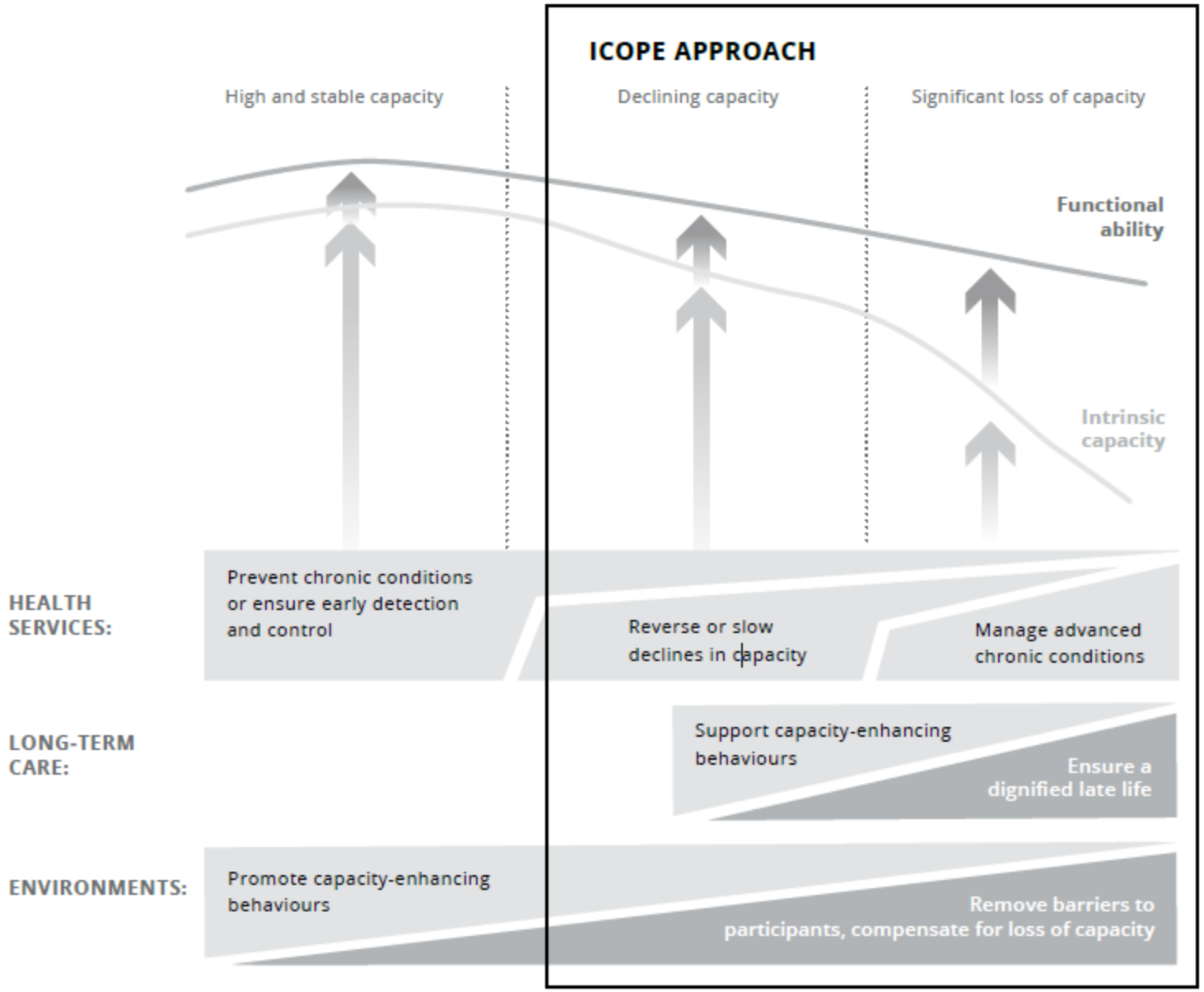
ICOPE
INTEGRATED CARE FOR OLDER PEOPLE

Implementation framework

Guidance for systems and services

World Health Organization

FIGURE 1.
A public health framework for healthy ageing and the opportunities for public health



Guideline Development Involvement

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DOI: 10.1111/ajag.13164

Australasian Journal on Ageing WILEY

BRIEF REPORT

The Australian and New Zealand Society for Sarcopenia and Frailty Research (ANZSSFR) sarcopenia diagnosis and management task force: Findings from the consumer expert Delphi process

Jesse Zanker[1,2] | Marc Sim[3,4] | Kate Anderson[5,6] | Saliu Balogun[7,8] | Sharon L. Brennan-Olsen[1,2,6,9] | Elsa Dent[10] | Gustavo Duque[1,2,11] | Christian M. Girgis[12,13] | Mathis Grossmann[14,15] | Alan Hayes[1,16] | Tim Henwood[17] | Vasant Hirani[18] | Charles Inderjeeth[19] | Sandra Iuliano[1,2] | Justin Keogh[20,21,22,23] | Joshua R. Lewis[3,4,24] | Gordon S. Lynch[25] | Julie A. Pasco[2,26] | Steven Phu[2,27] | Esmee M. Reijnierse[28,29,30] | Nicholas Russell[14,15] | Lara Vlietstra[31] | Renuka Visvanathan[32,33] | Troy Walker[34] | Debra L. Waters[35] | Solomon Yu[32,33] | Andrea B. Maier[28,36,37,38] | Robin M. Daly[39] | David Scott[39,40]

Table 3 Australian and New Zealand Society for Sarcopenia and Frailty Research (ANZSSFR) Sarcopenia Diagnosis and Management Task Force final statements and classification of recommendation

Number	Statement	Agreement (%)	EBR	CBR	PP
Screening					
3	Provided that adequate resources and training are available, and assessment is acceptable to the individual, adults at risk of sarcopenia should be assessed for sarcopenia annually or after the occurrence of a major health event.	85.1			
4	Adults screened as positive for possible sarcopenia should be assessed by an accredited health professional (or degreed, NZ) for further assessment to confirm sarcopenia.	88.1			
Diagnosis and assessment					
5	The ANZSSFR endorses the use of the revised European Working Group for Sarcopenia in Older People (EWGSOP2) in clinical and research settings,[a] including its validation in Australia and New Zealand.	85.1			
6	Low muscle mass is an important feature of sarcopenia.	90.9			
7	In the absence of equipment required for sarcopenia diagnosis, or when physical limitations (e.g., hand arthritis) preclude some active testing, the presence of muscle weakness or slowness (low usual gait speed) makes sarcopenia probable.	80.0			
8	Cultural, ethnic and physical ability differences for normal and low muscle strength, physical performance and body composition measures should be considered in the application of diagnostic cut-points for sarcopenia.	86.2			
9	Persons with sarcopenia should be assessed at least annually following diagnosis, with additional assessment following any major health event.	82.1			
10	The ANZSSFR recommends clinicians undertake a consultation of 30–60 min duration with persons with or at risk of sarcopenia, which could include assessments described by the BASIC (Basic Assessment Sarcopenia Items for Completion).[b]	80.9			
11	The standardization of a sarcopenia definition and cut-points for diagnosis and management is recommended across Australia and New Zealand.	89.6			

Table 3 Australian and New Zealand Society for Sarcopenia and Frailty Research (ANZSSFR) Sarcopenia Diagnosis and Management Task Force final statements and classification of recommendation

Number	Statement	Agreement (%)	EBR	CBR	PP
Management					
12	Accredited healthcare professionals (or degreed, NZ) should provide an accessible explanation of sarcopenia, including provision of informative material, to those diagnosed with sarcopenia to support engagement in self-determined health behaviours.	89.6			
13	All persons with sarcopenia should be offered resistance-based training by an accredited healthcare professional (or degreed, NZ), tailored to the individuals' abilities and preferences.	92.5			
14	Optimization of energy and protein intake is likely to be beneficial for all persons with sarcopenia, but benefits may be greatest when combined with a physical activity intervention, such as resistance exercise.	97.9			
15	Clinicians should consider referring persons with sarcopenia to a dietitian for the development of a dietary and protein optimization plan.	90.9			
16	Total protein intake of 1–1.5 g/kg/day should be considered for older adults with sarcopenia, excepting those with significant kidney disease defined by an eGFR of <30 mL/min/1.73 m^2.	86.7			

CBR = Consensus-based recommendation. EBR = Evidence-based recommendation. PP = Practice point.

[a]Caveats to this recommendation are insufficient agreement to endorse a screening tool or imaging technique, addressed in *Discussion*.

[b]The Basic Assessment Sarcopenia Items for Completion include (i) sarcopenia diagnostic measures; (ii) comorbidity assessment; (iii) medication history; (iv) falls and fracture history; (v) functional status; (vi) nutritional assessment; (vii) physical activity levels; (viii) social support assessment; (ix) quality of life and self-rated health; and (x) cognition and mood assessment. Refer to Data S8 for more details.

Uptake and utilisation trends

Proportion of older adults who undertook strength or toning activities in the last week	65–74 yrs (%)	≥ 75 yrs (%)
None	77.2	82.7

Australian National Health Survey
https://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey/2022

Uptake and utilisation trends

Proportion of older adults who undertook strength or toning activities in the last week	65–74 yrs (%)	≥ 75 yrs (%)
None	77.2	82.7
1	4.6	3.4
2	5.4	3.8
2 or more	18.3	14.0
3 or more	12.7	9.8

Australian National Health Survey
https://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey/2022

https://doi.org/10.24095/hpcdp.43.5.01

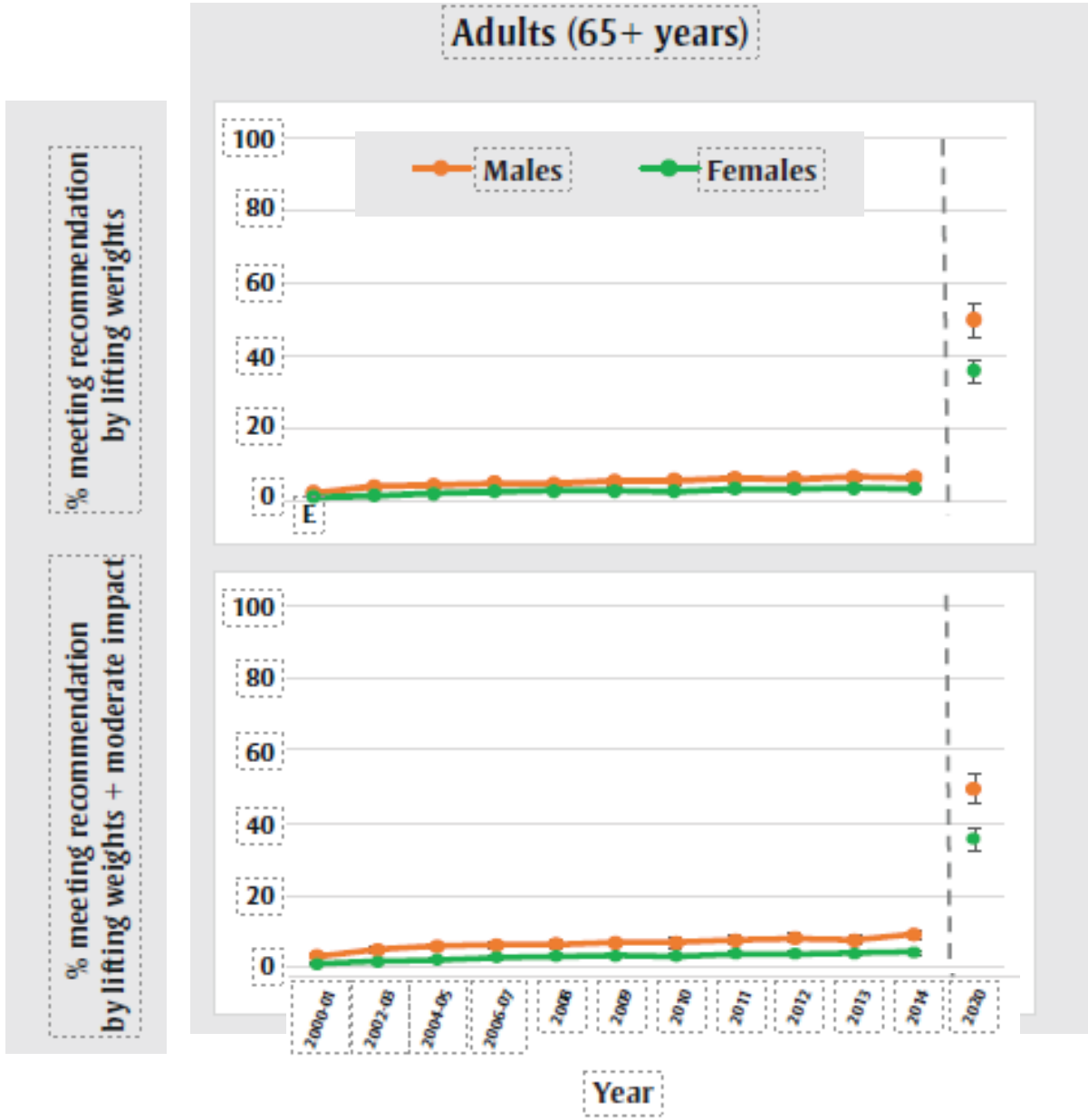
Original quantitative research

Strength-training and balance activities in Canada: historical trends and current prevalence

Stephanie A. Prince, PhD (1,2); Justin J. Lang, PhD (1,3); Rachel C. Colley, PhD (4); Lora M. Giangregorio, PhD (5,6,7); Rasha El-Kotob, PhD (5,7); Gregory P. Butler, MSc (1); Karen C. Roberts, MSc (1)

This article has been peer reviewed.

FIGURE 1
Sex-specific temporal trends in adherence to the muscle/bone-strengthening recommendations in youth, adults and older adults[a] based on weight training, moderate-to-high impact activities and low-to-high impact activities, CCHS, 2000–2014



Received: 7 July 2022 | Revised: 9 November 2022 | Accepted: 16 November 2022

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BRIEF REPORT

The Australian and New Zealand Society for Sarcopenia and Frailty Research (ANZSSFR) sarcopenia diagnosis and management task force: Findings from the consumer expert Delphi process

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Some key consumer results

- Sarcopenia prevention:
  - Resistance training (75%), medications (71%), dietary modifications (67%). Although, if single activity was performed, resistance training (46%) was most popular.

- Sarcopenia treatment:
  - Exercise frequency of 2-3 days/wk most preferred (46%) option
  - Happy to be involved in research for exercise (88%) and diet (62%), but less so for medications (33%)

Impact of low participation in resistance training

Calcified Tissue International
https://doi.org/10.1007/s00223-018-0478-1

ORIGINAL RESEARCH

Health Care Costs Associated With Muscle Weakness: A UK Population-Based Estimate

Rafael Pinedo-Villanueva[1] · Leo D. Westbury[2] · Holly E. Syddall[2] · Maria T. Sanchez-Santos[1] · Elaine M. Dennison[2,3] · Sian M. Robinson[2,4] · Cyrus Cooper[2,4,5]

Received: 17 July 2018 / Accepted: 18 September 2018

Abstract

Sarcopenia and muscle weakness are responsible for considerable health care expenditure but little is known about these costs in the UK. To address this, we estimated the excess economic burden for individuals with muscle weakness regarding the provision of health and social care among 442 men and women (aged 71–80 years) who participated in the Hertfordshire Cohort Study (UK). Muscle weakness, characterised by low grip strength, was defined according to the Foundation for the National Institutes of Health criteria (men < 26 kg, women < 16 kg). Costs associated with primary care consultations and visits, outpatient and inpatient secondary care, medications, and formal (paid) as well as informal care for each participant were calculated. Mean total costs per person and their corresponding components were compared between groups with and without muscle weakness. Prevalence of muscle weakness in the sample was 11%. Mean total annual costs for participants with muscle weakness were £4592 (CI £2962–£6221), with informal care, inpatient secondary care and primary care accounting for the majority of total costs (38%, 23% and 19%, respectively). For participants without muscle weakness, total annual costs were £1885 (CI £1542–£2228) and their three highest cost categories were informal care (26%), primary care (23%) and formal care (20%). Total excess costs associated with muscle weakness were £2707 per person per year, with informal care costs accounting for 46% of this difference. This results in an estimated annual excess cost in the UK of £2.5 billion.

Keywords Sarcopenia · Muscle weakness · Health care costs · Ageing

Reablement and wellness in aged care

The scope of the review covered five programs:

- The Commonwealth Home Support Programme (CHSP)
- Home Care Packages (HCP)
- Transition Care (TC)
- National Aboriginal and Torres Strait Islander Flexible Aged Care Programme (NASIFACP)
- Short Term Restorative Care Programme (STRC)

Among these, CHSP is the largest and was most frequently discussed.

https://www.health.gov.au/sites/default/files/documents/2019/12/wellness-and-reablement-summary-of-consultations-across-the-home-care-sector.pdf

Reablement and wellness in aged care

Figure 1: What is wellness and reablement?

Definitions from the Commonwealth Home Support Programme (CHSP) Good Practice Guide

Wellness emphasises identifying needs, aspirations and goals. It acknowledges and builds on strengths and has a focus on integrating support services as a path to greater independence and quality of life.

Reablement emphasises assisting people to regain functional capacity and improve independence. Similar to rehabilitation, it is goal-oriented and aims at full recovery where possible – it seeks to enable people to live their lives to the fullest.

https://www.health.gov.au/sites/default/files/documents/2019/12/wellness-and-reablement-summary-of-consultations-across-the-home-care-sector.pdf

Reablement and wellness in aged care

What did Nous find?

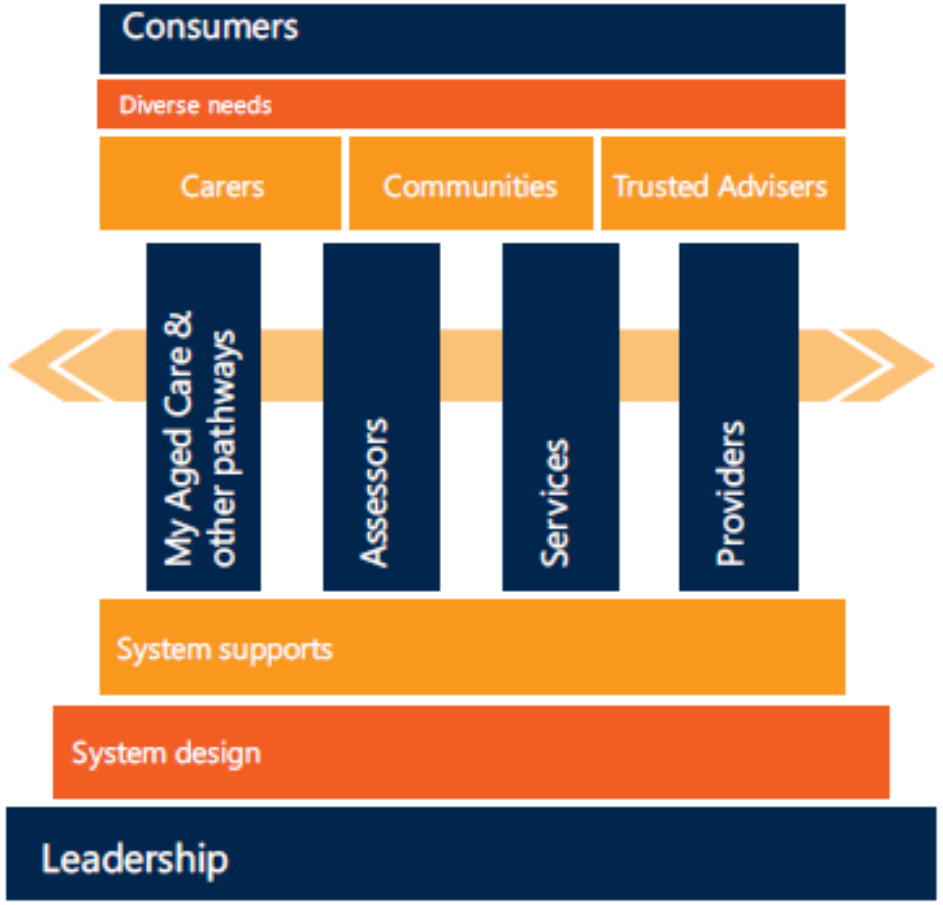
Overall, the key finding of the review was:

> There is strong support for W&R approaches, and some great examples of the approaches are emerging across the country. However, W&R approaches are not yet deeply embedded or consistently applied across the home care sector.

https://www.health.gov.au/sites/default/files/documents/2019/12/wellness-and-reablement-summary-of-consultations-across-the-home-care-sector.pdf

Reablement and wellness in aged care

Figure 5 | A collaborative structure for the home care sector



"The onus is on aged care providers to break the cycle of dependency with clients... though it is important for the Department of Health to drive community education, the success of wellness and reablement with consumers is directly related to how we conduct ourselves as providers and assessors.

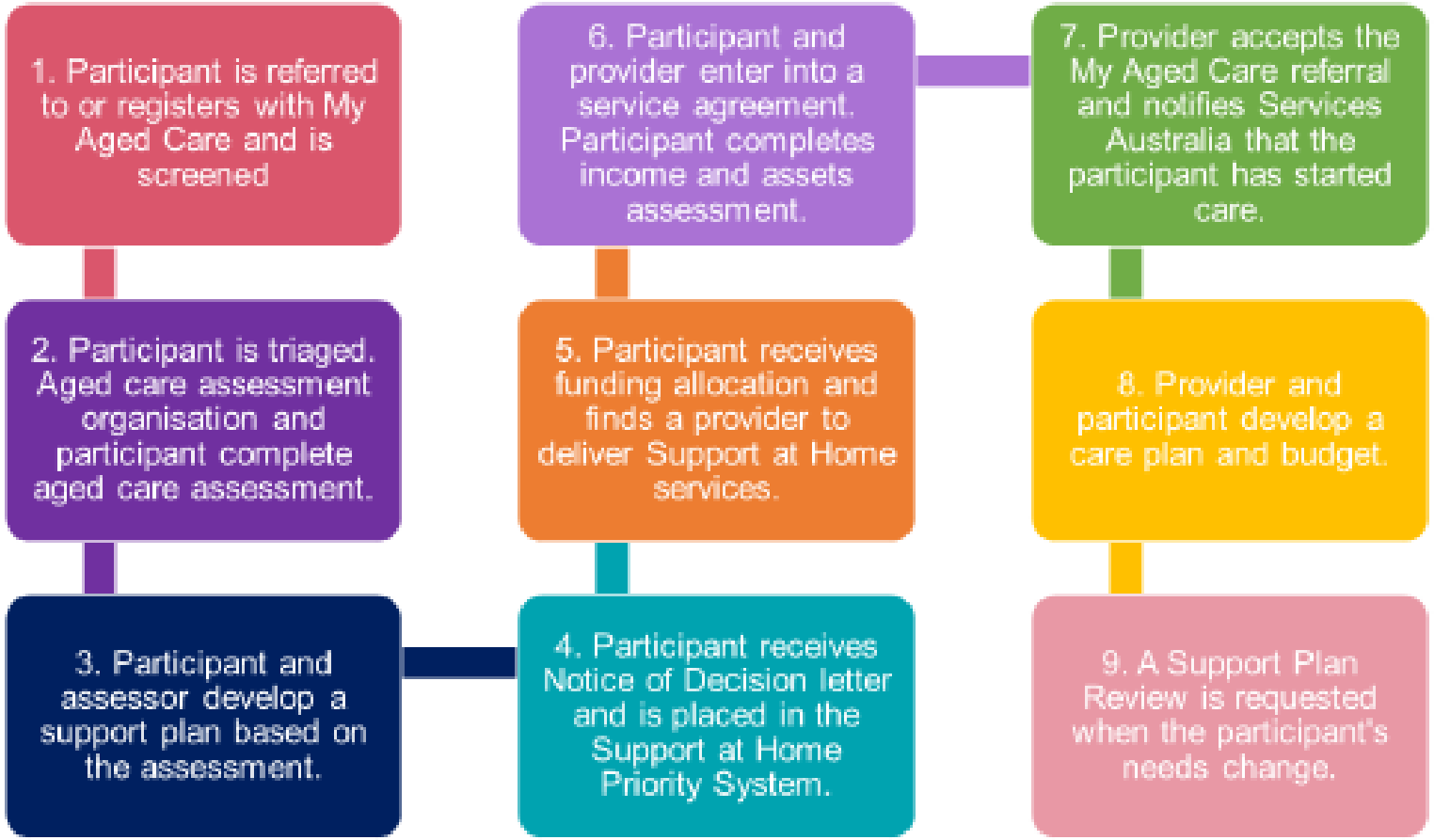
We need to be educated on the ideal outcomes of W&R approaches, how these approaches have worked in the past, and what realistic goal-setting looks like so that we can give consumers something to look forward to."

National teleconference participant

https://www.health.gov.au/sites/default/files/documents/2019/12/wellness-and-reablement-summary-of-consultations-across-the-home-care-sector.pdf

Support at Home program manual: A guide for registered providers for 1 July 2025

The diagram below outlines the **step-by-step process for a participant to begin receiving Support at Home services.**



https://www.health.gov.au/sites/default/files/2025-05/support-at-home-program-manual-a-guide-for-registered-providers.pdf

Short-term restorative care (STRC)

Received: 9 February 2023 | Revised: 14 November 2023 | Accepted: 19 November 2023

DOI: 10.1111/ajag.13265

INNOVATION, IMPLEMENTATION, IMPROVEMENT

Australasian Journal on Ageing WILEY

Prioritising restorative care programs in light of current age care reform

Laura Falland[1,2] | Tim Henwood[1,3] | Justin W. L. Keogh[4,5,6,7] | Kade Davison[2]

Abstract

Background: Short-term restorative care (STRC) aims to reduce the demand for long-term aged care services through 8 weeks of intensive, multidisciplinary services designed to enhance the independence of community-dwelling older Australians at risk of functional decline. Evidence surrounding the effectiveness and feasibility of STRC is limited.

Objective: This study aimed to examine the effectiveness of an existing exercise-based STRC model and help inform successful service delivery to maximise participant outcomes nationally.

Methods: An observational cohort study was conducted to evaluate the potential benefits accrued by community-dwelling older adults accessing Southern Cross Care's current exercise-based STRC model in Adelaide, South Australia. Program effectiveness was determined via improvements in outcome measures specific to functional decline risk factors from baseline (Week 0) to discharge (Week 8).

Results: Results demonstrated significant improvements ($p < 0.001$) in participants' ($n = 62$) lower extremity function (44.9%), depressive symptoms (52.4%), anxiety (45.8%), frailty stage (57.9%), independence in activities of daily living (17.3%) and health-related quality of life (24.0%). No significant change was found for grip strength or BMI post-intervention. The most frequent services were exercise-based (54.3% of total services), with participants receiving an average of two to three exercise services per week.

Conclusions: An exercise-based STRC model is an effective mechanism to reverse functional decline and associated risk factors among community-dwelling older Australians. Adoption of multidisciplinary intervention as a standardised STRC service model could help improve client outcomes nationally and offset expected increases in community and long-term aged care demand.

KEYWORDS

ageing, exercise therapy, functional independence, multidisciplinary care

How well are we providing evidenced-based programs?

Original Article

Content of exercise programmes targeting older people with sarcopenia or frailty – findings from a UK survey

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How well are we providing evidenced-based programs?

Abstract

Objectives: To establish whether existing exercise programmes offered to people with sarcopenia or frailty adhere to the current evidence base. **Methods:** We conducted a national survey of practitioners delivering exercise programmes to older people with sarcopenia or frailty in the UK. The link to the online survey was distributed through email lists of professional societies, practice networks and social media. Questions covered target population and programme aims, type, duration and frequency of exercise, progress assessment and outcome measures. **Results:** One hundred and thirty-six responses were received. 94% of respondents reported prescribing or delivering exercise programmes to people with sarcopenia or frailty. Most programmes (81/135 [60%]) were primarily designed to prevent or reduce falls. Resistance training was the main focus in only 11/123 (9%), balance training in 61/123 (50%) and functional exercise in 28/123 (23%). Exercise was offered once a week or less by 81/124 (65%) of respondents. Outcome measures suitable for assessing the effect of resistance training programmes were reported by fewer than half of respondents (hand grip: 13/119 [11%]; chair stands: 55/119 [46%]). **Conclusions:** Current UK exercise programmes offered to older people with sarcopenia or frailty lack the specificity, frequency or duration of exercise likely to improve outcomes for this patient group.

Keywords: Exercise, Frailty, Resistance training, Sarcopenia, Survey

Take home messages

- Progressive resistance and balance training essential health, function and well-being as we age
- Such exercise should ideally be performed at least twice a week
- Governments, local councils, aged care providers and healthcare professionals need to work together to provide accessible evidence-based exercise programs for older adults
- Each of us can make a difference in our community by being a role model and advocate

Podcast

https://open.spotify.com/episode/5WLprggovLUw4TAt5rS0Fm?si=7111956c56d6471e